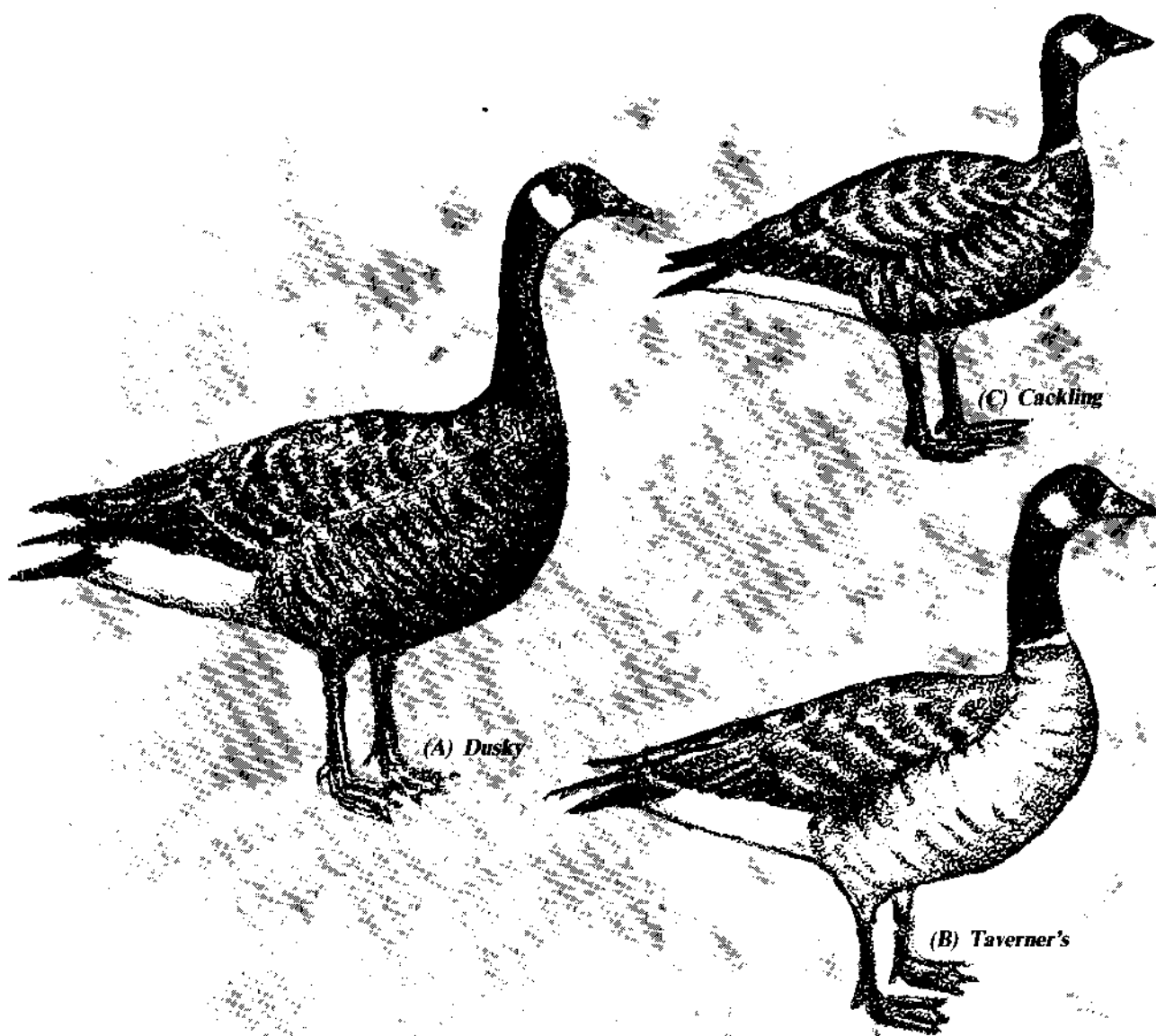


****ATTENTION****

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The various subspecies of Canada geese vary greatly in size. The dusky is one of seven races, or subspecies, of Canada geese that spend winters in southwest Washington and Oregon's Willamette Valley. The other six are the Western or "Great Basin" Canada goose, Vancouver Canada goose, Lesser Canada goose, Taverner's Canada goose, Aleutian Canada goose and Cackling Canada goose. (A) The dusky is smaller than the Western Canada or "Honker," but larger than the (B) Taverner's or (C) Cackling. The dusky is a large, dark-colored goose, while the Taverner's is smaller and lighter in color.

THE DUSKY DILEMMA

The 1964 Alaska earthquake altered dusky Canada goose nesting areas so radically that the population is now fighting for its survival.

by Pat Miller and Donna Gleisner

The dwindling numbers of the dusky Canada goose is of concern to goose hunters, landowners and environmentalists and has sparked intensive biological studies.

This year, Washington Department of Game Wildlife Biologist Pat Miller helped the Alaska Department of Fish and Game conduct its annual dusky Canada goose spring breeding surveys on the delta. Each May, the number of nests are counted; in June those same nests are examined to learn how many produced eggs and how many were destroyed by predators; in July, there is a final count of goslings and adult geese. Instead of trying to cover the entire 100 square miles of breeding ground, sample plots are used. Even so, the hours are grueling and there's always a good chance of bumping into a brown bear.

Tired, and dusted with greenish alder pollen, I slogged on in the eerie Arctic twilight. It was my last plot, and looking out over that brownish-green fingertip of sweetgale and sedge, I just knew there had to be a dusky brooding over her eggs. I wanted this to end on a happy note, after finding so many nests of crushed eggs and feathers.

Then I saw it. A typical nest in a typical place, but littered with pieces of egg and bird. And a red collar, with O.R.6 on it. It was from an adult dusky, collared last year, that spent the winter in the Willamette Valley of Oregon. I brought it home with me, along with a lot of questions.

The dusky is one of seven

... races, or subspecies, of Canada geese that spend winters in southwest Washington and Oregon's Willamette Valley: the Western or "Great Basin" Canada goose, Vancouver Canada goose, Lesser Canada goose, Taverner's Canada goose, Aleutian Canada goose and Cackling Canada goose.

They vary in size from a small duck to a big goose; in color from subtle combinations of snow white to battleship grey to charcoal black. They vary in where they prefer to nest and where the nip in the fall air nudges them south. They vary in call from bassoon-like honks to stirring trumpetings to high-pitched cackles. And they vary in number.

The cackling Canada goose population, for example, has plummeted precipitously in recent years. Other subspecies have been expanding their range and increasing in number, or at least maintaining a healthy balance between births and deaths. Not so the dusky.

The dusky Canada goose population, never a large one to begin with, has been on a roller coaster ride since the early 1970s. Fluctuating from 19,000 wintering dusks counted in 1971, to an all-time high of 26,000 in 1975, to the lowest low of only 10,000 birds in 1984, the population now precariously rests at 12,000.

Biologists began studying the dusky in the 1950s. By the end of that decade, they had established that a large number of these birds were killed by hunters' guns in a relatively small area of

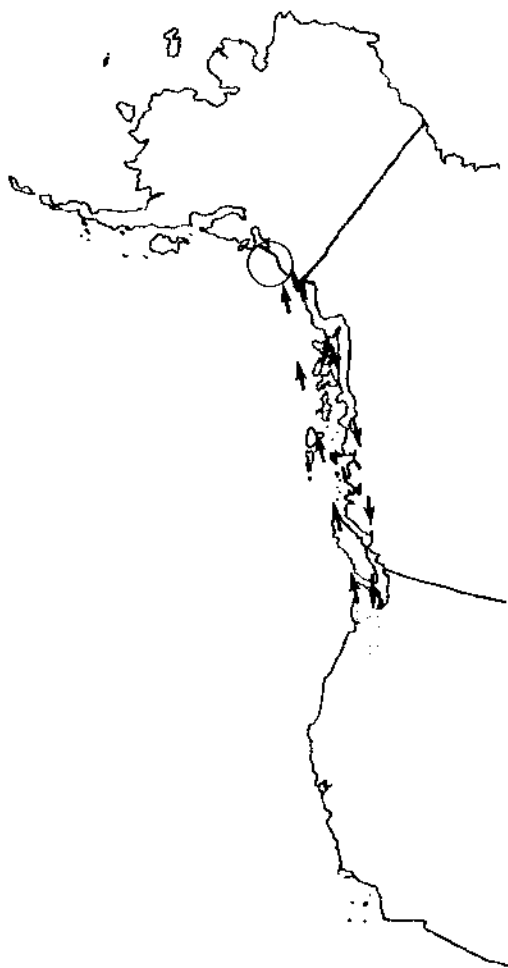
their wintering grounds — the Willamette Valley and the once expansive floodplain of the lower Columbia River between Vancouver and Longview.

That piece of knowledge led the U.S. Fish and Wildlife Service to establish a refuge complex in the Willamette Valley in the mid-1960s to provide sustenance and sanctuary for the wintering birds. Besides Finley, Basket Slough and Ankeny National Wildlife Refuges, further protection was provided by Oregon's Sauvie Island Management Area and Washington's Ridgefield National Wildlife Refuge just down river from Portland and Vancouver.

It might have been enough, all by itself, if nature hadn't intervened. Or if the dusks hadn't been so loyal to the Copper River Delta. Generation after generation of dusky Canada geese nested on the delta's outstretched fingers each spring, flirting with tidal floods but protected more or less from four-legged predators. For the next 15 years, biologists watched as the number of dusks increased, slowly and steadily. And then, when the bad years began, biologists realized that something that had happened almost 20 years earlier had insidiously begun to change the dusky's course. And what was worse, they might not be able to stop it.

EARTHQUAKE OF '64

In 1964, the Good Friday earthquake grabbed hold of Anchorage, Alaska and shook hard. The quake lifted the Copper



The dusky that winter in southwestern Washington and western Oregon nest on the Copper River Delta in Alaska, an area hard hit by the 1964 earthquake.

River Delta near Cordova, Alaska, two to six feet above its water-soaked edge. As the short grass meadow was removed from the saltwater, bushes and trees took hold where marsh plants had grown for hundreds of years. The dusky's only known natural breeding area was drastically altered.

Although less and less of the marshy meadow survived to safely nest in, the geese stayed, not knowing any other place. But now lanes of alder and willow made perfect traveling corridors for hungry brown bears and coyotes to reach the delta's edge unnoticed.

Biologists, monitoring the nesting area since the mid-1960s, intensified their efforts when the dusky population began to slip downhill again in 1980. The preliminary results of the spring nesting surveys revealed a slight increase in total number of nesting pairs over the last year. It also showed that of the 204 goose nests examined, two-thirds were destroyed by predators. From the spacing of tooth puncture marks on crushed eggs, scientists learned that brown bears destroyed about 50 percent of all the nests, coyotes almost 20 percent. Researchers also found an unusually high number of dead adult geese, most of which were thought to be killed by coyotes.

No one doubts that this increase in predators on the nesting grounds could be a major cause for the dusky's continued decline. To be sure, the Alaska Department of Fish and Game, Oregon Department of Fish and Wildlife and the U.S. Fish and Wildlife Service initiated a study on brown bears in April 1984 to learn of any ways to slow the heavy losses of this race of geese to opportunistic predators.

The dusky's dwindling population also has some serious implications for goose hunters and land owners in southwest Washington and western Oregon. Until the early 1970s, almost all the Canada geese wintering in the lower Columbia and Willamette Valley area were dusky. Since then, however, Taverner's Canada geese

have increased from a mere handful to more than 50,000. By 1981, they outnumbered the dusky two-to-one on the wintering range.

Yet dusky made up one-half of the harvest during goose season and continue to do so, regardless of the proportion of the two races. Biologists believe behavior and patterns of use on their wintering range are what make dusky more susceptible to the hunter's gun.

It could take five to ten years with no hunting mortality to rebuild the population to a safe level of 20,000. At the same time, managers also want to maintain goose hunting opportunities on the other, more numerous subspecies of Canada geese and prevent extensive crop damage.

State and federal waterfowl managers reasoned that if hunters could learn to distinguish between the large, dark dusky and the medium-sized, lighter Taverner's and avoid shooting dusky, it might be possible to do both. This was tried in the fall of 1985, after approximately 2,500 Oregon and Washington waterfowl hunters took a required goose identification course developed by the U.S. Fish and Wildlife Service, Oregon Department of Fish and Wildlife and Washington Department of Game.

Refinements of such hunting strategies will continue this fall. The Dusky Canada Goose Subcommittee, formed by the Pacific Flyway Council in 1972, continues to assess the situation and make management recommendations to the Council. Meanwhile, in a race against time, state and federal wildlife agencies and concerned citizens are participating in a wide range of top-priority studies to address problems on dusky nesting and wintering grounds, and to gather more information about its migration, behavior, feeding, predation, harvest and breeding. *WW*

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